What is claimed is:

1. A weather station, comprising:

a plurality of sensors;

a controller for processing measurement information from the sensors; and

a memory for storing processed measurement information, wherein the sensors comprise:

an anemometer for measuring wind speed;

a rain gauge for measuring rainfall;

a compass for determining the orientation of the weather station relative to the earth's magnetic field;

a Global Positioning System receiver for determining a spatial location of the weather station;

a barometric pressure sensor for measuring the barometric pressure; and

an air temperature sensor for measuring the ambient air temperature.

2. The weather station of claim 1, wherein the sensor further comprises:

a humidity sensor for measuring humidity;

a level for determining an orientation of the weather station relative to the earth's gravitational field; and

a radiant temperature sensor for measuring radiant temperature.

3. The weather station of claim 1, further comprising:

a wireless modem for wirelessly receiving commands and transmitting measurement information.

4. The weather station of claim 1, wherein the rain gauge comprises:

(a) an inlet for collecting rain drops;

(b) an outlet for removing collected rain drops;

(c) a first conduit in communication with the inlet; and

(d) a second conduit in communication with the outlet, wherein adjacent ends of the first and second conduits are spaced from one another and wherein at least one of the following is true:

(i) the adjacent ends of the first and second conduits are angled relative to a selected horizontal plane; and

(ii) the second conduit comprises a longitudinal slot extending downwardly from the end of the second conduit.

5. The weather station of claim 4, wherein (i) is true.

6. The weather station of claim 4, wherein (ii) is true.

7. The weather station of claim 4, wherein the anemometer comprises:

first and second transducers positioned along a first axis; and

third and fourth transducers positioned along a second axis, the first and second axes being at least substantially orthogonal, wherein each of the first, second, third, and fourth transducers are configured in a transmit mode to transmit a measurement signal and in a receive mode to receive the measurement signal.

8. The weather station of claim 1, wherein the controller and memory are contained in a control unit, wherein a first sensor is contained in a first sensor module, and wherein a second sensor is contained in a second sensor module, wherein the first and second sensor modules have at least corresponding first and second connection interfaces, respectively; wherein the control unit has at least a third connection interface, wherein each of the connection interfaces is configured to connect interchangeably to any of the other connection interfaces, and wherein the second sensor module is positioned between the first sensor module and control unit.

9. The weather station of claim 1, further comprising an upper body member and a lower body member, the upper and lower body members being separated by an open space, wherein a plurality of support members engage the separate the upper and lower body members, and wherein the anemometer and air temperature sensor are positioned in the open space between the upper and lower body members.

10. The weather station of claim 9, wherein a peripheral edge of the upper body member adjacent to the open space is flared outwardly relative to an adjacent portion of the

upper body member and wherein a peripheral edge of the lower body member is arcuate in cross-section to direct wind into the open space between the upper and lower body members.

11. The weather station of claim 9, wherein a power source for the station is located in the lower body member and power is conveyed to the upper body member through the support members.

12. The weather station of claim 9, wherein the lower body member comprises a spool for rope.

13. The weather station of claim 9, wherein the upper body member comprises the controller, memory, anemometer, rain gauge, compass, and Global Positioning System receiver and wherein the lower body member comprises the primary power source.

14. The weather station of claim 1, wherein the controller and memory are contained in a control unit, wherein a first sensor is contained in a first sensor module, and wherein a second sensor is contained in a second sensor module, wherein the first and second sensor modules have at least corresponding first and second connection interfaces, respectively; wherein the control unit has at least a third connection interface, wherein each of the connection interfaces is configured to connect interchangeably to any of the other connection interfaces, and wherein the second sensor module is positioned between the first sensor module and control unit, wherein the anemometer comprises:

first and second transducers positioned along a first axis; and

third and fourth transducers positioned along a second axis, the first and second axes being at least substantially orthogonal, wherein each of the first, second, third, and fourth transducers are configured in a transmit mode to transmit a measurement signal and in a receive mode to receive the measurement signal, wherein the rain gauge comprises:

(a) an inlet for receiving precipitation;

(b) an outlet for removing precipitation;

(c) a first conduit in communication with the inlet; and

(d) a second conduit in communication with the outlet, wherein adjacent ends of the first and second conduits are spaced from one another and wherein at least one of the following is true:

(i) the adjacent ends of the first and second conduits are angled relative to a selected horizontal plane; and

(ii) the second conduit comprises a longitudinal slot extending downwardly from the end of the second conduit and further comprising:

a base unit configured to operate in a network discovery mode in which network topology information is collected and a data polling mode in which sensed information is collected from selected sensor units;

a plurality of sensor units in signal communication with the base unit, wherein the base unit and plurality of sensor units are in different locations, wherein each of the plurality of sensor units has a stored primary power supply, wherein each of the sensor units is at least partially deactivated in a first operational mode and activated in a second operational mode, and wherein each sensor unit is in the first operational mode until the occurrence of at least one of the following events:

(i) a signal is received by the sensor unit from the base unit; and

(ii) the arrival of a scheduled time to perform a specified activity, the scheduled time being received from the base unit.

15. An environmental sensing system, comprising:

a first sensor module having at least a first connection interface;

a second sensor module having at least a second connection interface; and

a control unit having at least a third connection interface, wherein each of the first, second, and third connection interfaces is configured to connect interchangeably to any of the other of the first, second, and third connection interfaces and wherein the second sensor module is positioned between the first sensor module and control unit.

16. The system of claim 15, wherein, when the first and second sensors and control unit are interconnected, the first, second, and third connection interfaces are positioned along a common axis.

17. The system of claim 15, wherein, when the first and second sensors and control unit are interconnected, the first and second sensor modules and control unit are in a stacked relationship.

18. The system of claim 15, further comprising:

a controller for processing measurement information from the sensors; and

a memory for storing processed measurement information and wherein the sensors comprise:

an anemometer for measuring wind speed;

a rain gauge for measuring rainfall;

a compass for determining orientation of the station relative to the earth's magnetic field;

a Global Positioning System receiver for determining a location of the station; and

a barometric pressure sensor for measuring barometric pressure, wherein the anemometer comprises:

first and second transducers positioned along a first axis; and

third and fourth transducers positioned along a second axis, the first and second axes being at least substantially orthogonal, wherein each of the first, second, third, and fourth transducers are configured in a transmit mode to transmit a measurement signal and in a receive mode to receive the measurement signal, wherein the rain gauge comprises:

(a) an inlet for receiving precipitation;

(b) an outlet for removing precipitation;

(c) a first conduit in communication with the inlet; and

(d) a second conduit in communication with the outlet, wherein adjacent ends of the first and second conduits are spaced from one another and wherein at least one of the following is true:

(i) the adjacent ends of the first and second conduits are angled relative to a selected horizontal plane; and

(ii) the second conduit comprises a longitudinal slot extending downwardly from the end of the second conduit; and further comprising:

a base unit configured to operate in a network discovery mode in which network topology information is collected and a data polling mode in which sensed information is collected from selected sensor units;

a plurality of sensor units in signal communication with the base unit, wherein the base unit and plurality of sensor units are in different locations, wherein each of the plurality of sensor units has a stored primary power supply, wherein each of the sensor units is at least partially deactivated in a first operational mode and activated in a second operational mode, and wherein each sensor unit is in the first operational mode until the occurrence of at least one of the following events:

(i) a signal is received by the sensor unit from the base unit; and

(ii) the arrival of a scheduled time to perform a specified activity, the scheduled time being received from the base unit.

19. An anemometer for measuring wind speed and direction, comprising:

first and second transducers positioned along a first axis; and

third and fourth transducers positioned along a second axis, the first and second axes being at least substantially orthogonal, wherein each of the first, second, third, and fourth transducers are configured in a transmit mode to transmit a measurement signal and in a receive mode to receive the measurement signal.

20. The anemometer of claim 19, further comprising a controller operable (i) during a first time interval, to effect transmission of a first measurement signal from the first transducer to the second transducer; (ii) during a subsequent second time interval, to effect transmission of a second measurement signal from the second transducer to the first transducer; (iii) during a subsequent third time interval, to effect transmission of a third measurement signal from the third transducer to the fourth transducer; and (iv) during a subsequent fourth time interval, to effect transmission of a fourth measurement signal from the fourth transducer to the third transducer.

21. The anemometer of claim 19, wherein the first, second, third, and fourth transducers are each connected to a transmit circuit and a receive circuit and wherein the first, second, third, and fourth transducers are multiplexed together to use a common receive circuit.

22. The anemometer of claim 21, wherein each of the first, second, third, and fourth transducers has a separate transmit circuit.

23. The anemometer of claim 20, wherein the first, second, third, and fourth time intervals are discrete from one another.

24. The anemometer of claim 19, wherein the anemometer is part of an environmental sensing system, the sensing system comprising:

a first sensor module having at least a first connection interface;

a second sensor module having at least a second connection interface; and

a control unit having at least a third connection interface, wherein each of the at least a first, second, and third connection interfaces is configured to connect interchangeably to any of the other at least a first, second, and third connection interfaces and wherein the second sensor module is positioned between the first sensor module and control unit and wherein the system further comprises:

a plurality of sensors;

a controller for processing measurement information from the sensors; and

a memory for storing processed measurement information, wherein the sensors comprise:

a rain gauge for measuring rainfall;

a compass for determining orientation of the station relative to the earth's magnetic field;

a Global Positioning System receiver for determining a location of the station; and

a barometric pressure sensor for measuring barometric pressure, wherein the controller and memory are contained in a control unit, wherein a first sensor is contained in a first sensor module, and wherein a second sensor is contained in a second sensor module, wherein the first and second sensor modules have at least corresponding first and second connection interfaces, respectively; wherein the control unit has at least a third connection interface, wherein each of the connection interfaces is configured to connect interchangeably to any of the other connection interfaces, and wherein the second sensor module is positioned between the first sensor module and control unit, wherein the rain gauge comprises:

(a) an inlet for receiving precipitation;

(b) an outlet for removing precipitation;

(c) a first conduit in communication with the inlet; and

(d) a second conduit in communication with the outlet, wherein adjacent ends of the first and second conduits are spaced from one another and wherein at least one of the following is true:

(i) the adjacent ends of the first and second conduits are angled relative to a selected horizontal plane; and

(ii) the second conduit comprises a longitudinal slot extending downwardly from the end of the second conduit; and further comprising:

a base unit configured to operate in a network discovery mode in which network topology information is collected and a data polling mode in which sensed information is collected from selected sensor units; and

a plurality of sensor units in signal communication with the base unit, wherein the base unit and plurality of sensor units are in different locations, wherein each of the plurality

of sensor units has a stored primary power supply, wherein each of the sensor units is at least partially deactivated in a first operational mode and activated in a second operational mode, and wherein each sensor unit is in the first operational mode until the occurrence of at least one of the following events:

(i) a signal is received by the sensor unit from the base unit; and

(ii) the arrival of a scheduled time to perform a specified activity, the scheduled time being received from the base unit.

25. A method for measuring wind speed and direction, comprising:

providing first and second transducers positioned along a first axis and third and fourth transducers positioned along a second axis, the first and second axes being at least substantially orthogonal;

during a first time interval, transmitting a measurement signal from the first transducer and receiving the measurement signal at the second transducer; and

during a subsequent second time interval, transmitting a measurement signal from the second transducer and receiving the measurement signal at the first transducer;

during a subsequent third time interval, transmitting a measurement signal from the third transducer and receiving the measurement signal at the fourth transducer; and

during a subsequent fourth time interval, transmitting a measurement signal from the fourth transducer and receiving the measurement signal at the third transducer.

26. The method of claim 25, wherein the first, second, third, and fourth time intervals are discrete from one another.

27. The method of claim 25, wherein the first, second, third, and fourth transducers are each connected to a transmit circuit and a receive circuit and wherein the first, second, third, and fourth transducers are multiplexed together to use a common receive circuit.

28. The method of claim 27, wherein each of the first, second, third, and fourth transducers has a separate transmit circuit.

29. The method of claim 25, further comprising:

providing a weather station, the weather station comprising:

a plurality of sensors;

a controller for processing measurement information from the sensors; and

a memory for storing processed measurement information, wherein the sensors comprise:

an anemometer for measuring wind speed using the steps of claim 25;

a rain gauge for measuring rainfall;

a compass for determining orientation of the station relative to the earth's magnetic field;

a Global Positioning System receiver for determining a location of the station; and

a barometric pressure sensor for measuring barometric pressure, wherein the controller and memory are contained in a control unit, wherein a first sensor is contained in a first sensor module, and wherein a second sensor is contained in a second sensor module, wherein the first and second sensor modules have at least corresponding first and second connection interfaces, respectively; wherein the control unit has at least a third connection interface, wherein each of the connection interfaces is configured to connect interchangeably to any of the other connection interfaces, and wherein the second sensor module is positioned between the first sensor module and control unit, wherein the rain gauge comprises:

(a) an inlet for receiving precipitation;

(b) an outlet for removing precipitation;

(c) a first conduit in communication with the inlet; and

(d) a second conduit in communication with the outlet, wherein adjacent ends of the first and second conduits are spaced from one another and wherein at least one of the following is true:

(i) the adjacent ends of the first and second conduits are angled relative to a selected horizontal plane; and

(ii) the second conduit comprises a longitudinal slot extending downwardly from the end of the second conduit; and further comprising:

a base unit configured to operate in a network discovery mode in which network topology information is collected and a data polling mode in which sensed information is collected from selected sensor units;

a plurality of sensor units in signal communication with the base unit, wherein the base unit and plurality of sensor units are in different locations, wherein each of the plurality of sensor units has a stored primary power supply, wherein each of the sensor units is at least partially deactivated in a first operational mode and activated in a second operational mode, and wherein each sensor unit is in the first operational mode until the occurrence of at least one of the following events:

(i) a signal is received by the sensor unit from the base unit; and

(ii) the arrival of a scheduled time to perform a specified activity, the scheduled time being received from the base unit.

30. A device for collecting and measuring precipitation, comprising:

(a) an inlet for receiving precipitation;

(b) an outlet for removing the received precipitation;

(c) a first conduit in communication with the inlet; and

(d) a second conduit in communication with the outlet, wherein adjacent ends of the first and second conduits are spaced from one another and wherein at least one of the following is true:

(i) the adjacent ends of the first and second conduits are angled relative to a selected horizontal plane; and

(ii) the second conduit comprises a longitudinal slot extending downwardly from the adjacent end of the second conduit.

31. The device of claim 30, wherein (i) is true.

32. The device of claim 30, wherein (ii) is true.

33. The device of claim 31, wherein the angle of each of the adjacent ends of the first and second conduits ranges from about 30 to about 60°.

34. The device of claim 30, further comprising:

a plurality of sensors;

a controller for processing measurement information from the sensors; and

a memory for storing processed measurement information, wherein the sensors comprise:

an anemometer for measuring wind speed;

a compass for determining orientation of the station relative to the earth's magnetic field;

a Global Positioning System receiver for determining a location of the station; and

a barometric pressure sensor for measuring barometric pressure, wherein the controller and memory are contained in a control unit, wherein a first sensor is contained in a first sensor module, and wherein a second sensor is contained in a second sensor module, wherein the first and second sensor modules have at least corresponding first and second connection interfaces, respectively; wherein the control unit has at least a third connection interface, wherein each of the connection interfaces is configured to connect interchangeably to any of the other connection interfaces, and wherein the second sensor module is positioned between the first sensor module and control unit, wherein the anemometer comprises:

first and second transducers positioned along a first axis; and

third and fourth transducers positioned along a second axis, the first and second axes being at least substantially orthogonal, wherein each of the first, second, third, and fourth transducers are configured in a transmit mode to transmit a measurement signal and in a receive mode to receive the measurement signal; and further comprising:

a base unit configured to operate in a network discovery mode in which network topology information is collected and a data polling mode in which sensed information is collected from selected sensor units;

a plurality of sensor units in signal communication with the base unit, wherein the base unit and plurality of sensor units are in different locations, wherein each of the plurality of sensor units has a stored primary power supply, wherein each of the sensor units is at least partially deactivated in a first operational mode and activated in a second operational mode, and wherein each sensor unit is in the first operational mode until the occurrence of at least one of the following events:

(i) a signal is received by the sensor unit from the base unit; and

(ii) the arrival of a scheduled time to perform a specified activity, the scheduled time being received from the base unit.

35. A networked sensor system for collecting sensed information relating to an external environment, comprising:

a base unit configured to operate in a network discovery mode in which network topology information is collected and a data polling mode in which sensed information is collected from selected sensor units;

a plurality of sensor units in signal communication with the base unit, wherein the base unit and plurality of sensor units are in different spatial locations, wherein each of the plurality of sensor units has a stored primary power supply, wherein each of the sensor units is at least partially deactivated in a first operational mode and activated in a second operational mode, and wherein each sensor unit is in the first operational mode until the occurrence of at least one of the following events:

(i) a signal is received by the sensor unit from the base unit; and

(ii) the arrival of a scheduled time to perform a specified activity, the scheduled time being received from the base unit.

36. The networked sensor system of claim 35, wherein event (i) occurs.

37. The networked sensor system of claim 35, wherein event (ii) occurs.

38. The networked sensor system of claim 36, wherein, in the network discovery mode, the base unit transmits a discovery message to one or more of the sensor units, the one or more sensor units change from the first operational mode to the second operational mode,

and, when a sensor unit responds to the discovery message, requests information regarding the sensor units neighboring the responding sensor unit.

39. The networked sensor system of claim 38, wherein, when a sensor unit fails to respond to a selected number of discovery messages, the sensor unit is removed from a network topology model of the networked sensor system.

40. The networked sensor system of claim 39, wherein the selected number of discovery messages comprises a first discovery message transmitted from the base unit and retransmitted by a first set of sensor units and a second discovery message transmitted from the base unit and retransmitted by a second set of sensor units, and wherein the first and second sets of sensor units have at least one uncommon member.

41. The networked sensor system of claim 37, wherein, in the data polling mode, the base unit schedules a data polling time for one or more sensor units.

42. The networked sensor system of claim 41, wherein, when the scheduled time arrives, the one or more sensor units change from the first operational mode to the second operational mode and collect sensed information relating to a corresponding external environment for subsequent transmission to the base unit.

43. The networked sensor system of claim 35, wherein the base unit and plurality of sensor units are in wireless communication with one another.

44. The networked sensor system of claim 35, wherein each sensor unit comprises:

a plurality of sensors;

a controller for processing measurement information from the sensors; and

a memory for storing processed measurement information, wherein the sensors comprise:

an anemometer for measuring wind speed;

a rain gauge for measuring rainfall;

a compass for determining orientation of the station relative to the earth's magnetic field;

a Global Positioning System receiver for determining a location of the station; and

a barometric pressure sensor for measuring barometric pressure, wherein the controller and memory are contained in a control unit, wherein a first sensor is contained in a first sensor module, and wherein a second sensor is contained in a second sensor module, wherein the first and second sensor modules have at least corresponding first and second connection interfaces, respectively; wherein the control unit has at least a third connection interface, wherein each of the connection interfaces is configured to connect interchangeably to any of the other connection interfaces, and wherein the second sensor module is positioned between the first sensor module and control unit, wherein the anemometer comprises:

first and second transducers positioned along a first axis; and

third and fourth transducers positioned along a second axis, the first and second axes being at least substantially orthogonal, wherein each of the first, second, third, and fourth transducers are configured in a transmit mode to transmit a measurement signal and in a receive mode to receive the measurement signal, wherein the rain gauge comprises:

(a) an inlet for receiving precipitation;

(b) an outlet for removing precipitation;

(c) a first conduit in communication with the inlet; and

(d) a second conduit in communication with the outlet, wherein adjacent ends of the first and second conduits are spaced from one another and wherein at least one of the following is true:

(i) the adjacent ends of the first and second conduits are angled relative to a selected horizontal plane; and

(ii) the second conduit comprises a longitudinal slot extending downwardly from the end of the second conduit.

45. A method for collecting, using a networked sensor system, sensed information relating to an external environment, comprising:

providing a plurality of sensor units and a base unit in wireless communication with sensor units, the base unit being configured to operate in a network discovery mode in which network topology information is collected from selected sensor units and in a data polling mode in which sensed information is collected from selected sensor units, wherein the base unit and plurality of sensor units are in different locations and wherein each of the plurality of sensor units has a stored primary power supply;

at least partially deactivating each of the sensor units during a first time period; and

activating each of the sensor units during a second time period upon the occurrence of at least one of the following events:

(i) a signal is received by the sensor unit from the base unit; and

(ii) the arrival of a scheduled time to perform a specified activity, the scheduled time being received from the base unit.

46. The method of claim 45, wherein event (i) has occurred.

47. The method of claim 45, wherein event (ii) has occurred.

48. The method of claim 45, wherein one of events (i) and (ii) has occurred and further comprising:

deactivating each of the sensor units after one or more selected tasks have been completed.

49. The method of claim 46, wherein the network discovery mode comprises:

the base unit transmitting a discovery message to one or more of the sensor units;

the one or more sensor units activating in response to the receipt of the discovery message; and

when a sensor unit responds to the discovery message, the base unit requesting information regarding the sensor units neighboring the responding sensor unit.

50. The method of claim 46, further comprising:

when a sensor unit fails to respond to a selected number of discovery messages, the base unit removing the nonresponding sensor unit from a network topology model of the networked sensor system.

51. The method of claim 49, wherein the selected number of discovery messages comprises a first discovery message transmitted from the base unit and retransmitted by a first set of sensor units and a second discovery message transmitted from the base unit and retransmitted by a second set of sensor units, and wherein the first and second sets of sensor units have at least one uncommon member.

52. The method of claim 47, wherein the data polling mode comprises:

the base unit scheduling a data polling time for one or more sensor units.

53. The method of claim 47, wherein, in the activating step, the one or more sensor units change from the first operational mode to the second operational mode and collect sensed information relating to a corresponding external environment for subsequent transmission to the base unit.

54. The method of claim 45, wherein the base unit and plurality of sensor units are in wireless communication with one another.

55. The method of claim 45, wherein each sensor unit comprises:

a plurality of sensors;

a controller for processing measurement information from the sensors; and

a memory for storing processed measurement information, wherein the sensors comprise:

an anemometer for measuring wind speed;

a rain gauge for measuring rainfall;

a compass for determining orientation of the station relative to the earth's magnetic field;

a Global Positioning System receiver for determining a location of the station; and

a barometric pressure sensor for measuring barometric pressure, wherein the controller and memory are contained in a control unit, wherein a first sensor is contained in a first sensor module, and wherein a second sensor is contained in a second sensor module, wherein the first and second sensor modules have at least corresponding first and second

connection interfaces, respectively; wherein the control unit has at least a third connection interface, wherein each of the connection interfaces is configured to connect interchangeably to any of the other connection interfaces, and wherein the second sensor module is positioned between the first sensor module and control unit, wherein the anemometer comprises:

first and second transducers positioned along a first axis; and

third and fourth transducers positioned along a second axis, the first and second axes being at least substantially orthogonal, wherein each of the first, second, third, and fourth transducers are configured in a transmit mode to transmit a measurement signal and in a receive mode to receive the measurement signal, wherein the rain gauge comprises:

(a) an inlet for receiving precipitation;

(b) an outlet for removing precipitation;

(c) a first conduit in communication with the inlet; and

(d) a second conduit in communication with the outlet, wherein adjacent ends of the first and second conduits are spaced from one another and wherein at least one of the following is true:

(i) the adjacent ends of the first and second conduits are angled relative to a selected horizontal plane; and

(ii) the second conduit comprises a longitudinal slot extending downwardly from the end of the second conduit.